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EXAMINER

OROPEZA, FRANCES P

ART UNIT	PAPER NUMBER
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3762

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/541,452

Applicant(s)

AMUNDSON ET AL. *cm*

Examiner

Frances P. Oropeza

Art Unit

3762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2002 and 04 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13-15, 23-26 and 28-30 is/are pending in the application.
- 4a) Of the above claim(s) 28 and 29 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15 is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-11, 13, 14, 23, 25, 26 and 30 is/are rejected.
- 7) ☐ Claim(s) 7 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/4/02 has been entered.

Response to Amendment filed 10/01/02

2. The Applicant amended claims 1-3, 6, 7, 23 and 25 to overcome the prior art of record, hence a new grounds of rejection is presented in paragraphs 5, 7, 9 and 10 of this action.

The Applicant cancelled claims 12 and 27.

The Applicant added claim 30.

The Applicant had previously cancelled claims 16-22 as being drawn to a non-elected invention.

The Examiner has responded, in paragraph 3 of this action, to the Applicant's arguments relative to the rejections of record.

Claims 1-11, 13-15, 23-26 and 28-30 are pending in this application. Of these claims, claims 1, 15, 23 and 28 are independent.

3. The Applicant's arguments relative to the restriction and rejections of record are discussed below:

Claim 28 and 29 - Restriction

The Applicant respectfully traversed the holding of claims 28 and 29 as withdrawn from consideration because claims 28 and 29 do not contain subject matter from previously restricted claims (claims 16-22) and because the basis cited by the Examiner for saying claim 28 and 29 are distinct from the originally claimed invention of claim 1, a second coil, is found in a dependent claim 12, hence claim 12 was cancelled and claim 1 was amended to include this limitation.

The restriction of claim 28 is deemed proper because restrictions are based on the independent claims in an application and claim 28 does not contain all the limitations of independent claims 1, 15 and/or 23. Claim 28 is a combination of the subcombination claims 1, 15 and 23. The differences in claims 1, 15 and 23 relative to claim 28 are noted in the following paragraphs. Differences are underlined for emphasis.

Claim 1 comprises “a first and a second telemetry coil concentrically planarly wound substantially in a common plane and each adapted to inductively coupled with the implanted medical device” and a communication lead “where the first end is communicately coupled to the first and the second telemetry coil”. Claim 1 does not comprise a “flexible housing, wherein the first telemetry coil and second telemetry coil”... are “within the flexible housing”.

Claim 15 comprises “a predetermined outer dimension where the diameter is “in a range of fifteen(15) to forty-six (46) centimeters”, the conductive wire is “wound substantially in a common plane concentrically around a center core, where the central core includes a magnetically permeable material and where the loops are positioned around the central core to form a substantially constant gap between the adjacent loops positioned around the central core”

to form a substantially constant gap between adjacent loops where the coil includes an outside diameter ranging between fifteen (15) to forty-six (46) centimeters.” Claim 15 does not comprise “a communication lead... coupled to a first telemetry coil”, “a second telemetry coil” and “a flexible housing”.

Claim 23 comprises “a first and a second telemetry coil”... where the predetermined outer dimension is “sufficient to allow communication between the first and the second telemetry coil and the implantable medical device”, where the first and the second telemetry coils include one of more loops of a conductive wire”, where the first telemetry coil and the second telemetry coil are “concentrically planarly wound substantially in a common plane where the conductive wire is wound around a core, where the core is constructed of a magnetically permeable material that enhances flux density of the apparatus, where the magnetically permeable material includes a ferrite powder” and the first end of the communication lead is “communicately coupled to the first and the second telemetry coil”. Claim 23 does not comprise a communication lead solely “coupled to a first telemetry coil” and “a flexible housing”.

Claims 28 and 29 stand withdrawn from consideration as noted in paragraph 4 of this office action.

35 U.S.C. 112

Claims 6 and 23 were successfully amended to address the 35 U.S.C. 112 rejections of record. The 35 U.S.C. 112 rejections of record are withdrawn.

Claim 23 – Lee et al.

The Applicant's arguments relative to the 35 U.S.C. 102(b) rejection of claim 23 as being anticipated by Lee et al. have been fully considered and are convincing. The 35 U.S.C. 102(b) rejection of claim 23 as being anticipated by Lee et al. (US 5741315) is withdrawn.

Claims 1, 3-6 and 23 - Batina et al. and Silvian

The Applicant's arguments relative to the 35 U.S.C. 103(a) rejection of claims 1, 3-6 and 23 as being unpatentable over Batina et al. and Silvian have been fully considered and are convincing. The rejection of claims 1, 3-6 and 23 under 35 U.S.C. 103(a) as being unpatentable over Batina et al. (US 4700707) in view of Silvian (US 6301504) is withdrawn.

Claims 2, 8-11, 14, 25 and 26 - Batina et al., Silvian and Zarinetchi et al.

The Applicant's arguments relative to the 35 U.S.C. 103(a) rejection of claims 2, 8-11, 14, 25 and 26 as being unpatentable over Batina et al., Silvian and Zarinetchi et al. have been fully considered and are convincing. The rejection of claims 2, 8-11, 14, 25 and 26 under 35 U.S.C. 103(a) as being unpatentable over Batina et al. (US 4700707) and Silvian (US 6301504) in view of Zarinetchi et al (US 6389318) is withdrawn.

Claims 7, 15 and 24 - Batina et al. and Silvian

The Applicant's arguments relative to the 35 U.S.C. 103(a) rejection of claims 7, 15 and 24 as being unpatentable over Batina et al. and Silvian have been fully considered and are convincing. The rejection of claims 7, 15 and 24 under 35 U.S.C. 103(a) as being unpatentable over Batina et al. (US 4700707) and Silvian (US 6301504) is withdrawn.

Claims 12, 13 and 27 - Batina et al., Silvian and Lee et al.

The Applicant's arguments relative to the 35 U.S.C. 103(a) rejection of claims 12, 13 and 27 as being anticipated by Lee et al. have been fully considered and are convincing. The rejection of claims 12, 13 and 27 under 35 U.S.C. 103(a) as being unpatentable over Batina et al. (US 4700707) and Silvian (US 6301504) in view of Lee et al. (US 5741315) is withdrawn.

Election/Restrictions

4. Newly submitted claims 28 and 29 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claim 28 does not contain all the limitations of independent claims 1, 15 and/or 23 as discussed in paragraph 3 of this action.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 28 and 29 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 is indefinite because it depends on cancelled claim 12.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1, 3 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Weijand (US 6298271). Weijand discloses a medical system having improved telemetry.

As related to claim 1, a first (1) and second (2) telemetry coil concentrically planarly wound substantially in a common plane communicates with the implanted medical device antenna (30) using RF signals (figure 2; c 2, ll 38-39; c 4, ll 7-13). It is inherent this communication is inductive. The communication lead has a first and second end; the first end is connected to the telemetry coils and the second end is connected to the programmer (figure 1A and c 2, ll 30-38).

As related to claim 3, the first and second telemetry coils include one or more loops of a conductive wire (c 3, ll 36-64).

As related to claim 4, the one or more loops of the conductive wire are concentrically wound in a common plane (c 3, ll 36-64 and c 4, ll 11-14).

As related to claim 30,

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint Inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. The Applicant is advised of the obligation under 37 CFR 1.56 to point out the Inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 2, 8-11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weijand (US 6298271) in view of Zarinetchi et al (US 6389318). As discussed in paragraph 7 of this action, Weijand discloses the claimed invention except for providing a flexible, insulated housing for the external telemetry coil that will conform to an irregular surface to enable the device to mate with the patient's body.

Zarinetchi et al. disclose a transcutaneous energy transfer device and teach that it is known to provide a flexible insulated housing for the primary coil that will conform to an

irregular surface (c 4, ll 59-65; c 6, l 56 – c 7, l 29; figures 7A & 7B). The padded cushions (712 and 750) are read to be disposed over the housing. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the medical system having improved telemetry as taught by Weijand, with the insulated housing for the external telemetry coil that conforms to an irregular surface as taught by Zarinetchi et al. to enable the device to mate with the patient's body so a comfortable and effective interface with the patient is provided (c 6, ll 57-61).

10. Claims 5, 6 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weijand (US 6298271) in view of Silvian (US 6301504). As discussed in paragraph 7 of this action Weijand discloses the claimed invention except for a magnetically permeable core surrounded by the telemetry coil.

Silvian discloses a high-speed telemetry system with a transmit coil (22) and a receive coil (30) and teaches the use of a ferrite core (ferrite is known to be a powdered magnetic material consisting chiefly of ferric oxide) to support high transmission rates (c 6, ll 55-58 and c 9, ll 39-42). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the medical system having improved telemetry as taught by Weijand, with the ferrite core as taught by Silvian to provide a coil configuration that will enable high transmission rates so data can be transferred without significant error while preserving the limited power resources of the implanted device (c 1, ll 50-55).

11. Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weijand (US 6298271) in view of Kung (US 6400991). As discussed in paragraph 7 of this action, Weijand

discloses the claimed invention except for the outer dimension of the first and second telemetry coils being a diameter in a range of fifteen (15) to forty-six (46) centimeters.

Kung discloses an electromagnetic field source with two primary coils and teaches that the size of the coil is dependent on how much current you want to induce in the implanted device coils. Hence, it would be obvious to provide external telemetry coils where the outer dimension of the first and second coils is a diameter in a range of fifteen (15) to forty-six (46) centimeters to enable communication at an appropriate current level with the implanted device. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the medical system having improved telemetry as taught by Weijand, with the outer dimension of the first and second telemetry coils being a diameter in a range of fifteen (15) to forty-six (46) centimeters as taught by Kung to enable effective and efficient communication of energy between the external device and the implanted device (c 3, ll 13-36).

11. Claims 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weijand (US 6298271) in view of Silvian (US 6301504) and further in view of Kung (US 6400991). As discussed in paragraphs 7 and 10 of this action, modified Weijand discloses the claimed invention except for the outer dimension of the first and second telemetry coils being a diameter in a range of fifteen (15) to forty-six (46) centimeters.

Kung discloses an electromagnetic field source with two primary coils and teaches that the size of the coil is dependent on how much current you want to induce in the implanted device coils. Hence, it would be obvious to provide external telemetry coils where the outer dimension of the first and second coils is a diameter in a range of fifteen (15) to forty-six (46) centimeters to enable communication at an appropriate current level with the implanted device. Therefore it

would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified medical system having improved telemetry as taught by modified Weijand, with the outer dimension of the first and second telemetry coils being a diameter in a range of fifteen (15) to forty-six (46) centimeters as taught by Kung to enable effective and efficient communication of energy between the external device and the implanted device (c 3, ll 13-36).

12. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weijand (US 6298271) in view of Silvian (US 6301504) and further in view of Zarinetchi et al (US 6389318). As discussed in paragraphs 7 and 10 of this action, modified Weijand discloses the claimed invention except for providing a flexible, insulated housing for the external telemetry coil that will conform to an irregular surface to enable the device to mate with the patient's body.

Zarinetchi et al. disclose a transcutaneous energy transfer device and teach that it is known to provide a flexible insulated housing for the primary coil that will conform to an irregular surface (c 4, ll 59-65; c 6, l 56 – c 7, l 29; figures 7A & 7B). The padded cushions (712 and 750) are read to be disposed over the housing. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified medical system having improved telemetry as taught by modified Weijand, with the insulated housing for the external telemetry coil that conforms to an irregular surface as taught by Zarinetchi et al. to enable the device to mate with the patient's body so a comfortable and effective interface with the patient is provided (c 6, ll 57-61).

13. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weijand (US 6298271) in view of Snell et al. (US 6424867). As discussed in paragraph 7 of this action,

Weijand discloses the claimed invention except for the second telemetry coil being arranged and operated at a different telemetry operational frequency than the first telemetry coil.

Snell et al. disclose a secured telemetry system for an implantable cardiac device and teach the use of two telemetry circuits, each circuit with a different telemetry operational frequency to enable communication between two different devices using radio frequency links (figure 1 and c 3, ll 40-47). Given the external device and the implanted device both contain transceivers to send and receive signals, application of the teaching of using different transmission frequencies with two different coils is a teaching obviously applicable to an external device. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the medical system having improved telemetry as taught by Weijand, with telemetry coil with two different operating frequencies as taught by Snell et al. to enable simultaneous sending and receiving of communication signals and to enable simultaneous communication to different devices by the originating device, hence improving the communication capability between an implanted device and an external device (c 3, ll 5-17).

Allowable Subject Matter

14. Claim 15 is allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fran Oropeza whose telephone number is (703) 605-4355. The examiner can normally be reached on Monday – Thursday from 6 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela D. Sykes can be reached on (703) 308-5181. The fax phone numbers for the


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organization where this application or proceeding is assigned are (703) 306-4520 for regular communication and (703) 306-4520 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0858.

Frances P. Oropeza
Patent Examiner
Art Unit 3762

12/1/02


GEORGE R. EVANISKO
PRIMARY EXAMINER

12/2/02